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Mydrosoma micheneri Packer, new species, a New Diphaglossine Bee from Brazil (Hymenoptera: Colletidae)

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Abstract.—***Mydrosoma micheneri* Packer, new species**, is described and illustrated. The sole known specimen, a female, is from the Mato Grosso of Brasil and was collected almost 40 years ago. It is distinctive in having a longer head and malar space than other members of its tribe.

The purpose of this paper is to describe a somewhat unusual species in the genus *Mydrosoma*. It differs from other species by the comparatively elongate malar space and clypeus. The genus *Mydrosoma* is one of three genera in the tribe Dissoglottini, the others being *Mydrosomella*, with two species (Graf and Urban 2001), and the monotypic *Ptiloglossidia* (Michener 2007). *Mydrosoma* occurs from southern Brazil to Mexico and none of its nine species have been collected frequently. The only biological data suggest that these may be late afternoon flying bees, with short activity periods; this could help explain their apparent rarity.

In the description below, standard terminology for bee morphology is employed, following Michener (1986, 2007). Puncture density is indicated by the relative distances between punctures in terms of interspace (i) to puncture diameter (d) ratios (e.g. i = 2d). Flagellomeres are numbered 1–10, and metasomal terga and sterna indicated by T and S, respectively. Hair length is indicated relative to the diameter of the median ocellus – MOD.

Mydrosoma micheneri Packer new species
Figs 1–2

Diagnosis.—The new species has the standard combination of characteristics of the tribe Dissoglottini: pre-episternal groove absent and notaulus weak or absent. It is clearly a member of the genus *Mydrosoma* as indicated by the presence of arolia, second and third submarginal cells subequal in area and basitibial plate incomplete. The new species is readily separated from other *Mydrosoma* by the comparatively elongate head, with clypeus only 1.5 times as wide as long and malar space almost as long as basal depth of mandible (Fig. 1).

Description.—Female. Body length 14 mm, forewing length 9 mm, head width 3.05 mm, intertegular span 2.8 mm.

Colouration: Black with lower face, antenna, legs and metasoma dark brown; following parts orange: anterior surface of flagellum (except F2 red-brown), entire apical flagellomere, tegula, fore tibia and fore tarsus, wing veins; wing membrane pale amber; metasomal terga with metallic reflections; apical impressed areas straw.

Pubescence: Hairs plumose with numerous short branches. Bright fuscous on dorsal and lateral surfaces of mesosoma, pale yellowish on face, ventral surface of mesosoma, legs and metasoma. Outer surface of hind tibia with brown hairs. Prepygidial fimbria dark brown, hairs on disks of T2–T5 blackish. Hairs on face short, 1.5MOD; slightly longer on vertex, genal area and mesoscutum, 2MOD; longer on mesopleuron, scutellum and metanotum ≤3MOD; longest hairs on lateral

Fig. 1. Lateral habitus of *Mydrosoma micheneri*, Packer, n. sp.

surface of propodeum and hind femoral scopa, 4MOD. Hind tibia with shorter hairs ≤2MOD except longer on ventral surface <3MOD. T1 with simple erect hairs 2MOD, longer and plumose laterally, 3MOD. Apical bands of appressed hairs on T2–T4 <2MOD. S1 with short erect hairs, 1.5MOD; S2–S5 with posteroventrally directed long subapical hair bands, hairs with numerous branches on anterior of rhachis only, longest on S3, 3.5MOD.

Surface sculpture: Microsculpture weak, surface shiny, except somewhat dull on lower face. Punctures on face below antennae distinct and moderately dense i ~ d; frons with punctures finer and shallower but equally dense; narrow transverse impunctate band between antennal bases; area between lateral ocellus and compound eye and vertex immediately behind ocelli almost impunctate. Mesoscutum with shallow, moderately dense punctures, i ≤ d; scutellum with deeper, more distinct and irregularly spaced punctures, i = 1–3d; metanotum with punctures almost crowded laterally, i > d medially; dorsal area of propodeum impunctate, lateral surface densely punctate above and along ventral margin, i ≤ d, sparsely punctate below; mesopleuron with dense, somewhat effaced punctures, almost crowded dorsally, i < 1.5MOD below; T1 with punctures sparse on disk, i = 2–4d, denser towards submarginal zone i = 1–2d; punctures increasingly dense on more posterior terga, i ≤ d on T5. Apical impressed areas with tiny dense punctures apically.

Structure: Head as wide as long. Labrum flat with weak transverse basal ridge. Mandible three times as long as basal depth, subapical tooth short. Galeal comb with approximately 28 teeth. Clypeus 1.5 times as wide as long, apical rim slightly upturned. Supraclypeal area 1.25 times as

Fig. 2. Frontal view of head of *M. micheneri* Packer n. sp. to show elongate mandible, clypeus and malar area.

long as apical breadth. Interantennal distance 0.75× antennocular distance. Malar space long, ~0.87× as long as basal depth of mandible. Genal length subequal to width of compound eye; longitudinal axis of compound eye just posterior to mid-depth of mandible; almost at right angle to axis of mandible base. Facial fovea indistinct, marked by weak ridge at inner margin of upper paraocular area approximately 1.5MOD in length. Ocellocular distance subequal to interocellar distance and less than twice MOD. Vertex behind lateral ocellus subequal in length to MOD, weakly depressed. F1 equal to combined lengths of F2 and F3; F2–F9 somewhat broader than long, F10 almost twice as long as wide. Notaulus not evident. Scutellum weakly depressed medially. Dorsal surface of propodeum convex, mostly declivous. Basal vein thickened for apical half. First recurrent vein enters second submarginal cell two vein widths from 1r-m. Posterior margin of second submarginal cell 10% longer than that of third submarginal cell. Basitibial plate indicated by posterior carina 2.5MOD in length. Hind basitarsus twice as long as greatest depth, dorsal margin strongly and ventral margin weakly convex. Jugal lobe slightly less than half as long as vannal lobe.

Male.—Unknown.

Etymology.—It is a pleasure to name this species after Charles Michener in recognition of his stellar achievements in melittology.

Material Studied.—Holotype female: BRAZIL: Mato Grosso 12°50′S 51°47′W, 2.iv.1968. O.W. Richards. A second label states: R.S. & R.G.S. Expedition B.M. 1968–260. A third label states "Gallery forest". A fourth, handwritten, label states "Paracolletini, n. gen. N. sp.!" [Though the species is clearly a member of the Diphaglossinae

as indicated by the tiny stigma and strongly bifid glossa.] The specimen belongs to the Natural History Museum (BMNH).

Comments.—This species keys out to *M. inusitatum* (Snelling) in Michener (1986), but can be easily distinguished from that species by the malar area which is longer than in all other species of *Mydrosoma*, but linear (absent) in *M. inusitatum*. It might seem to belong to Friese's *Bicornelia* (sunk within *Mydrosoma* by Michener 1986; see also Snelling 1980), although that species group is defined based upon secondary sexual characteristics of males, which are unknown for *M. micheneri*. It does not key out to either species of "*Bicornelia*" using Michener (1986).

The locality where the species was collected is now largely agricultural, although gallery forest remains along watercourses. There is a substantial area of forest to the west of the type locality however, the Parque Nacional do Xingu. It is possible that this species may persist in this region.

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LITERATURE CITED

Graf, V. and D. Urban. 2001. *Mydrosomella cleia*, uma espécie nova do sul do Brasil (Hymenoptera, Colletidae). *Acta Biologica Paranaense* 30: 1715–179.

Michener, C. D. 1986. A review of the tribes Diphaglossini and Dissoglottini (Hymenoptera: Colletidae). *University of Kansas Science Bulletin* 53: 183–214.

———. 2007. *The bees of the world* [2nd edition]. Johns Hopkins University Press, Baltimore, Maryland.

Snelling, R. R. 1980. The genus *Bicornelia* (Hymenoptera: Colletidae). *Contributions in Science, Natural History Museum of Los Angeles County* 327: 1–6.